

Brunswick / Mercury Marine Introductory

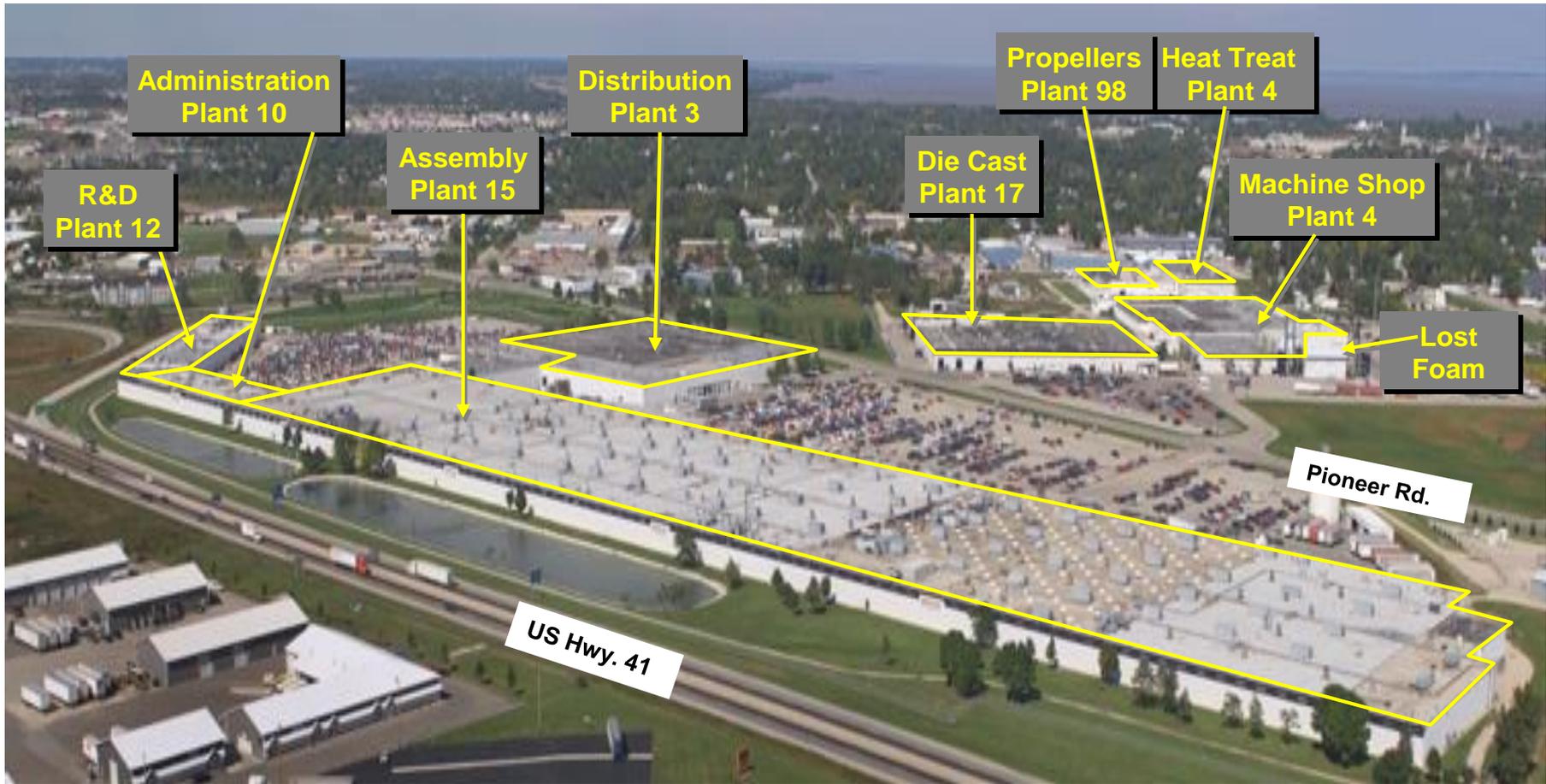
Comments

August 24 – 25, 2016

Detroit, MI

METALS Annual Meeting

Mercury Marine's Perspectives are Based on Our Organizational Structure, Experiences, and Corporate Culture



Mercury World Headquarters, Fond du Lac, WI

- Highly vertically integrated w/ 2.5 million square feet.

Mercury Aluminum Alloy Design and Manufacturing



Due to the extreme operating environment of marine engines, aluminum alloy metallurgy is exceptionally important to Mercury.



Designing, making, casting, machining and finishing our own aluminum alloys for over 30 years.



Alloy smelting is considered a manufacturing core competency. New high capacity ingot maker in production. Only 3 Die Casters in the U.S. smelt their own metal.



Three (3) aluminum casting processes on FDL campus: HPDC, Lost Foam w/ Pressure, LPPM. Recently acquired North Americas' largest diecasting machine.



Currently smelting 30 - 50 million lbs. of aluminum annually, using 100% recycled Al (and 99+% recycled materials overall).

Mercury Marine Perspectives

Key questions:

- ▶ What does the future of scrap recycling market look like compared to current market penetration levels?
 - More Globalization of scrap.
 - More pre-consumer closed loop recycling for large volume wrought product forms.
 - More dependence on post-consumer scrap for making cast product forms (as decreasing access to wrought pre-consumer scrap).
- ▶ How do you assess new technology or processes for adoption? What needs to be proven to adopt them at scale?
 - Worker Safety and Environmental Protection are paramount!
 - Do they work consistently, reliably, with customer service on our production floor?
 - Can they be permitted for use by State (DNR) and Federal (EPA) regulations?
- ▶ What metals or specific alloys are highest value add, and where should market look in the future?
 - Follow product design trends (e.g. light-weighting, sustainability).
 - Aluminum alloys that have low Fe, or our more tolerant of Fe, for better fatigue and damage tolerance, and formability properties.
- ▶ Where are the best entry points for closed loop pre-consumer recycling vs. post-consumer scrap markets?
 - Closed loop pre-consumer: The start of any new program with a team approach (Supplier, Customer Purchasing, Manufacturing and R&D in every meeting)
 - Post Consumer: Every day where Supplier, Customer Purchasing, Manufacturing are a team.
- ▶ What business models are needed to succeed in the current market climate?
 - **Highly analytical, risk-mitigating (for composition, cost, availability), flexible**, where all team members benefit.